

PATENT ABSTRACTS OF JAPAN

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(21)Application number : 09-036791 (71)Applicant : NICHIA CHEM IND LTD

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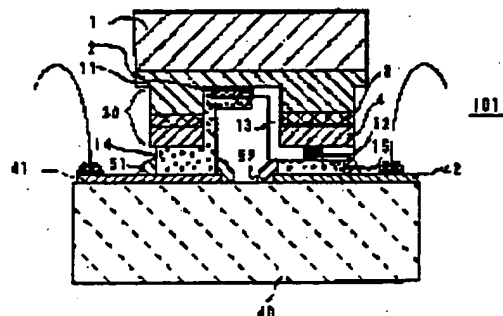
(54) NITRIDE SEMICONDUCTOR LASER DIODE

(57)Abstract:

PROBLEM TO BE SOLVED: To enhance the heat-dissipating property of a nitride semiconductor laser diode by a method wherein, separately from a positive electrode and a negative electrode which are formed on a face which comprises a positive electrode and a negative electrode, a nitride semiconductor layer which is formed to be a shape capable of coming into contact with a heat-dissipating body is provided.

SOLUTION: An n-type layer 2, an active layer 3 and a p-type layer 4 are laminated on a substrate 1, an n-ohmic electrode 11 as a negative electrode is installed on an n-type nitride semiconductor layer in a recess which is formed by an etching treatment, and a p-ohmic electrode 12 as a positive electrode is installed on a p-type nitride semiconductor layer in a protrusion which is not etched.

Then, in addition to the formation of the n-ohmic electrode 11 and the p-ohmic electrode 12, a nitride semiconductor layer in the neighborhood on the left of the n-ohmic electrode 11 is not removed by an etching operation so as to be left, and a heat-dissipating part 30 which is formed to be a shape capable of coming into contact with a heat sink 40 is formed. Thereby, it is possible to obtain a nitride semiconductor laser diode whose heat-dissipating property is improved, which restrains a rise in a threshold value and whose life characteristic can be enhanced.



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Claim(s) 10-233549

[Claim 1] The nitride semiconductor laser diode characterized by coming to have the nitride semiconductor layer formed in the configuration where a radiator can be contacted apart from forming a positive electrode and a negative electrode in the field which has a positive electrode and a negative electrode in the nitride semiconductor laser diode which comes to prepare the positive electrode and negative electrode of a couple in the same side side.

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